



Report to the Chairman,  
Committee on Financial Services,  
House of Representatives

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December 2023

# FINANCIAL TECHNOLOGY

## SEC Should Prepare a Workforce Plan, Document Oversight Controls, and Set Goals for Innovation Office

Accessible Version

## Why GAO Did This Study

Crypto assets and other financial technologies, which have grown rapidly, offer potential benefits and pose risks. For example, crypto assets had a market value of around \$1.2 trillion in October 2023. Such technology and its rapid evolution may present oversight challenges, and GAO recently reported that regulatory gaps exist over certain crypto assets. Some policymakers have raised questions about SEC's competencies in financial technology products and services, including crypto assets.

GAO was asked to review SEC's financial technology expertise and other issues. This report examines (1) SEC's efforts to develop its staff's crypto-asset competencies, (2) FinHub's policies and procedures, and (3) SEC's use of supervisory technology, among other objectives.

GAO reviewed and analyzed SEC documentation and data on its workforce planning, hiring, and training; FinHub's policies and procedures; and SEC's supervisory technology. GAO also interviewed SEC staff who work on matters related to crypto assets, including through six focus groups (total of 32 staff), and representatives of nine industry, consumer, or state regulatory associations.

## What GAO Recommends

GAO recommends SEC (1) prepare a new workforce plan, (2) document the policies and procedures for FinHub's internal controls, and (3) develop performance goals and measures for FinHub. SEC concurred with the recommendations.

View [GAO-24-106635](#). For more information, contact Michael E. Clements at (202) 512-8678 or [ClementsM@gao.gov](mailto:ClementsM@gao.gov).

## FINANCIAL TECHNOLOGY

### SEC Should Prepare a Workforce Plan, Document Oversight Controls, and Set Goals for Innovation Office

#### What GAO Found

Securities and Exchange Commission (SEC) staff have developed competencies related to crypto assets (digital instruments that depend on cryptography and distributed ledger or similar technology) primarily through their work experience. In addition, SEC has provided subject-specific training and hired new staff with expertise in the area. SEC has about 116 staff who work primarily on matters related to crypto assets, either in specialty units or as subject matter experts who support other staff. The agency offered more than 500 training courses on crypto assets or other financial technology between 2018 and mid-2023. It also posted 40 job announcements for positions specifying crypto-asset competencies between 2019 and 2023. However, SEC has not produced a new workforce planning strategy to update its fiscal years 2019–2022 strategy. Doing so would better position SEC to meet its future workforce needs and to carry out its oversight and policymaking duties related to crypto assets.

SEC's Strategic Hub for Innovation and Financial Technology (FinHub) helps coordinate SEC oversight of emerging technology, but it does not have documented policies and procedures and performance goals. FinHub became a stand-alone office in December 2020 and serves as a source of subject matter expertise to coordinate and advise on financial technology issues. While FinHub has operating processes in place, such as to meet with market participants, it has not documented policies and procedures to support internal controls. By doing so, FinHub would have reasonable assurance that it is managing risk appropriately. In addition, FinHub tracks and measures certain performance outputs, such as the number of external inquiries it receives and number of policy issues on which it advises. However, the office has not established performance goals, such as training staff on crypto assets, against which to assess its performance or contribution to SEC's mission. Establishing such goals would enable FinHub to better assess its effectiveness and make any needed improvements.

SEC has implemented a range of supervisory technology tools to help support market oversight and achieve its fiscal years 2022–2026 strategic plan's goals. For example, divisions and offices use:

- a portal to provide data and analyses about funds, broker-dealers, advisers, and other topics;
- a dashboard to identify certain categories of potential risks at broker-dealers; and
- a tool to detect anomalous patterns in financial reporting and identify situations or activities that may warrant further inquiry.

The tools use advanced data analytics and other techniques to detect and investigate potential illegal activity and target high-risk areas for examination, among other outcomes. SEC's fiscal year 2024 performance plan adds two new performance goals related to its use of supervisory technology. In its annual 2022 and 2023 statements, SEC's Office of the Inspector General included the use of technology and analytics to meet SEC's mission requirements as a significant management and performance challenge facing the agency.

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**Abbreviations**

|                       |   |
|-----------------------|---|
| Corporation Finance   | Division of Corporation Finance                       |
| DERA                  | Division of Economic and Risk Analysis                |
| Enforcement           | Division of Enforcement                               |
| Examinations          | Division of Examinations                              |
| FinHub                | Strategic Hub for Innovation and Financial Technology |
| fintech               | financial technology                                  |
| FY                    | fiscal year   |
| Investment Management | Division of Investment Management                     |
| OHR                   | Office of Human Resources                             |
| SEC                   | Securities and Exchange Commission                    |
| Trading and Markets   | Division of Trading and Markets                       |

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December 15, 2023

The Honorable Patrick McHenry  
Chairman  
Committee on Financial Services  
House of Representatives

Dear Mr. Chairman:

Financial technology (fintech)—the use of technology and innovation to provide financial products and services—has increased in popularity, providing potential benefits and raising new risks.<sup>1</sup> Fintech products and services offer funding, investment, and other opportunities that may advantage investors, consumers, and firms. However, past failures of crypto assets and trading platforms, fraud, and other factors have resulted in heavy losses to crypto-asset holders.<sup>2</sup> We recently reported that regulatory gaps over certain crypto assets could compromise consumer and investor protection and financial stability.<sup>3</sup>

The technology underlying fintech and its rapid evolution may present regulators with oversight challenges.<sup>4</sup> Policymakers have raised questions about whether regulators, including the Securities and

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<sup>1</sup>For example, see GAO, *Financial Technology: Products Have Benefits and Risks to Underserved Consumers, and Regulatory Clarity Is Needed*, [GAO-23-105536](#) (Washington, D.C.: Mar. 8, 2023). See also <https://www.gao.gov/financial-technology>. Fintech products and services that SEC has identified include crypto assets, digital marketplace financing, automated investment advice, and artificial intelligence and machine learning. According to Coinmarketcap.com (an industry source for market data) the total market value for crypto assets was around \$1.2 trillion in October 2023.

<sup>2</sup>A crypto asset (which we use interchangeably with digital asset) is a private-sector digital instrument issued or transferred using distributed ledger or blockchain technology. Blockchain allows users to conduct and record transfers of crypto assets without a central authority, such as a bank. A crypto (or digital) asset may or may not meet the definition of a “security” under the federal securities laws. We do not opine on whether a particular crypto asset is or is not a security and use the term generally to include nonsecurities and securities.

<sup>3</sup>GAO, *Blockchain in Finance: Legislative and Regulatory Actions Are Needed to Ensure Comprehensive Oversight of Crypto Assets*, [GAO-23-105346](#) (Washington, D.C.: June 22, 2023).

<sup>4</sup>See GAO, *Financial Technology: Agencies Can Better Support Workforce Expertise and Measure the Performance of Innovation Offices*, [GAO-23-106168](#) (Washington, D.C.: Sept. 6, 2023).

Exchange Commission (SEC), possess the necessary competencies to oversee fintech products and services, including those relating to crypto assets. You asked us to examine SEC's engagement with the fintech industry and the competencies of SEC staff with regard to crypto assets. This report examines

- how SEC has assessed and met its need for staff competencies related to crypto assets;
- the extent to which SEC's Strategic Hub for Innovation and Financial Technology (FinHub) has implemented policies and procedures to help ensure it operates efficiently and effectively;
- how SEC has engaged crypto-asset market participants, and what is known about the outcomes of such engagement; and
- how SEC has used supervisory technology to oversee the securities markets and market participants.

For the first objective, we reviewed and analyzed SEC's workforce planning strategy, human capital plans, and strategic plans.<sup>5</sup> We reviewed documentation such as job postings, new hire surveys, summaries of training courses offered related to crypto assets, and data on their attendance.<sup>6</sup> We held six focus groups with a total of 32 staff about their crypto-asset competencies and training. Each focus group was comprised of a nongeneralizable sample of five to seven staff from various divisions, selected to reflect different experience levels, roles, and responsibilities.

For the second objective, we reviewed and analyzed SEC documentation on FinHub, including its congressional budget justifications, press releases, and internal controls. We interviewed representatives of a nongeneralizable sample of nine organizations (selected to reflect a broad range of viewpoints) that represent the fintech or securities industry, consumers or investors, or state securities regulators.

For the third objective, we reviewed and analyzed relevant laws and regulations and SEC documentation on its engagement with crypto-asset

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<sup>5</sup>For the purposes of this report, we use the term "workforce planning strategy" to mean SEC's FY 2019–2022 Workforce and Succession Planning Strategy.

<sup>6</sup>To assess the reliability of the data, we reviewed related documentation and obtained written responses from SEC about data quality and control. We determined they were sufficiently reliable for the purposes of summarizing training courses offered and staff attendance from 2018 through May 2023.

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market participants. We also obtained views on SEC engagement from the organizations and regulators noted above.

For the fourth objective, we reviewed and analyzed SEC documentation on its supervisory technology tools and its use of the tools in agency enforcement activity, and reviewed relevant GAO and SEC's Office of Inspector General reports. For all four objectives, we interviewed SEC officials from each division and FinHub. For more information on our objectives, scope, and methodology, see appendix I.

We conducted this performance audit from February 2023 to December 2023 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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## Background

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### SEC and Its Divisions Responsible for Policymaking and Oversight

SEC is an independent federal agency responsible for overseeing the U.S. securities markets and certain market participants, including broker-dealers, mutual funds, investment advisers, and securities exchanges. Its mission is to protect investors; maintain fair, orderly, and efficient markets; and facilitate capital formation.

SEC is headed by a five-member commission, with commissioners appointed by the President and confirmed by the Senate. The President designates one of the commissioners as the Chair. The five commission members act to set and enforce the rules that govern the securities markets and its participants. The SEC Chair is responsible for overseeing SEC's executive and administrative functions.

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As shown in table 1, SEC has six divisions that are primarily responsible for implementing SEC's mission.<sup>7</sup>

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<sup>7</sup>SEC also has designated the Office of Information Technology, Office of the Chief Accountant, and Office of Credit Ratings as mission critical and primarily responsible for implementing SEC's mission.



**Table 1: SEC Divisions and Their Roles and Responsibilities**

| Division                               | Primary roles and responsibilities   |
|--|--|
| Division of Corporation Finance        | Reviews corporate disclosures, issues guidance to promote compliance with SEC’s rules, and recommends new rules for adoption and revisions to existing rules.  |
| Division of Economic and Risk Analysis | Provides economic analyses and subject-matter expertise to support a range of SEC activities, including rulemaking, enforcement, and examination; assists in SEC’s efforts to identify, analyze, and respond to risks and trends, including those associated with new financial products, investment and trading strategies, systemic risk, and fraud; and develops financial and market data analysis tools, supplies economic statistics, and promotes data standards. |
| Division of Enforcement                | Investigates possible violations of securities laws and recommends commission action when appropriate, either in a federal court or in an administrative proceeding, and negotiates settlements.   |
| Division of Examinations               | Conducts examinations of registered entities, such as investment advisers, investment companies, broker-dealers, securities exchanges, and clearing agencies.  |
| Division of Investment Management      | Oversees and develops regulatory policy for investment companies (such as mutual, closed-end, and exchange-traded funds) and registered investment advisers and reviews filings of investment companies under the federal securities laws.   |
| Division of Trading and Markets        | Oversees major securities market participants, such as securities exchanges, broker-dealers, and clearing agencies; and establishes and maintains standards to promote fair, orderly, and efficient securities markets, including by assisting with rulemaking and issuing guidance to promote compliance with SEC’s rules.  |

Source: GAO summary of Securities and Exchange Commission (SEC) information | GAO-24-10663

SEC’s Division of Corporation Finance (Corporation Finance), Division of Investment Management (Investment Management), and Division of Trading and Markets (Trading and Markets) are responsible for rulemaking and other policymaking. In addition, these divisions, along with the Division of Enforcement (Enforcement) and Division of Examinations (Examinations), are responsible for overseeing the U.S. securities markets and certain market participants. Although the Division of Economic and Risk Analysis (DERA) does not have policymaking or oversight responsibilities, it supports the other divisions with their policymaking and oversight responsibilities.

Additionally, in 2018, SEC established FinHub within Corporation Finance to encourage responsible innovation in emerging fintech. In 2020, SEC designated FinHub as a stand-alone office designed to foster innovation in emerging technologies in the U.S. securities markets consistent with investor protection.

To carry out its mission, SEC employs staff with a range of skills and backgrounds throughout the United States. The SEC’s workforce primarily consists of professionals who include attorneys, accountants, examiners, and technologists. As of September 2023, SEC employed

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approximately 4,895 staff located in Washington, D.C. and in 11 regional offices.

SEC's Office of Human Resources (OHR) has overall responsibility for the strategic management of SEC's personnel management and assesses compliance with federal regulations for areas such as recruitment, retention, leadership and staff development, and performance management. In addition, certain divisions have internal human resource coordinators that coordinate between OHR and their respective division heads. OHR reports to SEC's Office of the Chief Operating Officer, which reports to the Office of the Chair.

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## Crypto Assets and Trading Platforms

Crypto assets take a variety of forms and, among other things, are used to transfer value on blockchains.<sup>8</sup> Examples include the following:

- Cryptocurrencies generally are digital representations of value protected through cryptographic mechanisms (instead of a central repository or authority) and typically are not government-issued legal tender.<sup>9</sup> Cryptocurrencies can fluctuate in value.
- Crypto-asset security tokens are issued on a blockchain and represent ownership or other rights. They are intended to be the digital forms of traditional securities such as stocks or bonds.<sup>10</sup>

Crypto-asset platforms facilitate various types of crypto-asset transactions and often serve as customers' entry point into the crypto-asset

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<sup>8</sup>Unless otherwise indicated, the terms we use to describe the examples of crypto assets are not defined in statute or regulation. For additional information, see [GAO-23-105346](#).

<sup>9</sup>GAO, *Blockchain: Emerging Technology Offers Benefits for Some Applications but Faces Challenges*, [GAO-22-104625](#) (Washington, D.C.: Mar. 23, 2022). Stablecoins are another type of crypto asset that are designed with the intent to maintain a stable value, typically with reference to a fiat currency or other reference asset. Stablecoins use different methods to try to maintain a stable value.

<sup>10</sup>The Securities Industry and Financial Markets Association defines securitized tokens as representations on distributed ledgers of securities issued on a nondistributed ledger platform. According to the association, such underlying securities should satisfy the definition of a security under applicable law. Securities Industry and Financial Markets Association and PricewaterhouseCoopers, LLP, *Security Tokens: Current Regulatory and Operational Considerations for Broker-Dealers and a Look Towards the Future* (New York, N.Y.: Nov. 23, 2020). When a token meets the definition of a security, its offer and sale must be registered with SEC, as with any other security before it can be offered and sold in interstate commerce, unless there is an applicable exemption.

ecosystem.<sup>11</sup> For example, crypto-asset trading platforms allow users to trade crypto assets for other crypto assets or fiat currency. These platforms may offer trading in a wide variety of crypto-asset types and may make it easier for users to transact in crypto assets than through peer-to-peer transactions. Trading platforms may reduce the number of intermediaries by providing services that have been traditionally provided by separate intermediaries, such as broker, dealer, custody, and clearing services.<sup>12</sup>

To the extent a transaction or activity involves a crypto asset that meets the definition of a security under federal securities law, SEC has

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<sup>11</sup>For additional information, see SEC, Supplemental Information and Reopening of Comment Period for Amendments Regarding the Definition of “Exchange,” 88 Fed. Reg. 29448 (May 5, 2023).

<sup>12</sup>The SEC Chair has stated that the commingling of exchange, broker-dealer, custodial and other services within crypto-asset intermediaries creates conflicts of interests and risks for investors that SEC does not allow in other marketplaces. See, for example, Gensler, Gary, Chair, Securities and Exchange Commission, “We’ve Seen This Story Before,” Remarks before the Piper Sandler Global Exchange & Fintech Conference (June 8, 2023). SEC has charged several crypto-asset trading platforms (and, in certain cases, particular individuals associated therewith) alleging that they were operating as an unregistered national securities exchange, broker, dealer, and/or clearing agency. See, for example, *SEC v. Bittrex, Inc., Bittrex Global GMBH, and William Hiroaki Shihara*, No. 2:23-cv-00580 (W.D. Wash filed April 17, 2023) (in alleging Bittrex failed to register with the SEC as a broker-dealer, national securities exchange, or clearing agency, SEC noted that the Bittrex Platform, like other crypto-asset trading platforms, has merged these three functions that are typically separated in traditional securities markets); *SEC v. Binance Holdings Limited, BAM Trading Services, Inc., BAM Management US Holdings Inc., and Changpeng Zhao*, No. 1:23-cv-01599, (D.D.C. filed June 5, 2023) (alleging that Binance and BAM Trading, under Zhao’s leadership and control, have offered three essential securities market functions – exchange, broker-dealer, and clearing agency – on the Binance Platforms without registering with the SEC); and *SEC v. Coinbase, Inc. and Coinbase Global, Inc.*, No. 1:23-cv-04738, (S.D.N.Y. filed June 6, 2023) (alleging that Coinbase has never registered its crypto-asset trading platform which merges the functions of brokers, exchanges, and clearing agencies, and has thus evaded the disclosure regime that Congress has established for the securities markets).

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jurisdiction to regulate and enforce applicable law against appropriate persons and entities relating to that transaction or activity.<sup>13</sup>

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## SEC Hired and Trained Staff to Improve Crypto Competencies but Has Not Updated Workforce Plan

SEC staff primarily have gained competencies in crypto assets through work experience, and SEC has also provided training and hired new staff with such competencies. SEC's fiscal years (FY) 2022–2026 strategic plan states the agency needs to continue to enhance these competencies and increase its crypto-asset resources. However, SEC has not prepared a new strategy to update its FY 2019–2022 workforce planning strategy to help ensure the agency meets its future needs for crypto-asset competencies.

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## SEC Developed and Hired Staff with Crypto-Asset-Related Competencies

### Staff with Crypto-Asset Competencies

Six divisions and FinHub collectively identified about 116 staff who are subject matter experts in crypto assets or who work primarily on crypto-asset-related matters in specialty units (as discussed below).<sup>14</sup> According

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<sup>13</sup>The federal securities laws define the term security to include an investment contract, as well as other instruments such as notes, stocks, bonds, and transferable shares. 15 U.S.C. §§ 77b(a)(1); 78c(a)(10). The Supreme Court's *Howey* test is used with subsequent case law to determine whether certain transactions are investment contracts. The test generally deems a financial instrument an "investment contract" if it involves an investment of money in a common enterprise with the expectation of profits to be derived from the managerial or entrepreneurial efforts of others. *SEC v. W.J. Howey Co.*, 328 U.S. 293, 298-99 (1946). SEC also has applied factors set out in *Reves v. Ernst & Young*, 494 U.S. 56 (1990) in enforcement actions to determine if a financial instrument is a "note" that is a security under the federal securities laws. See, for example, BlockFi Lending LLC, Securities Act Rel. No. 11029, Investment Company Act Rel. No. 34503, SEC File No. 3-20758, 2022 WL 462445 (Feb. 14, 2022).

<sup>14</sup>These divisions were DERA and the five SEC divisions primarily responsible for oversight or policymaking—Corporation Finance, Enforcement, Examinations, Investment Management, and Trading and Markets. As we discuss in more detail later in the report, FinHub helps coordinate SEC's oversight of and response to emerging technologies in financial, regulatory, and supervisory systems. FinHub employs seven staff, six of which have crypto-asset-related competencies.

to SEC officials, each division also has additional staff who have some competency in the area through training or work experience.<sup>15</sup> According to SEC officials and staff, the extent to which staff need competencies related to crypto assets varies based, in part, on their job position (e.g., attorney, examiner, or economist).<sup>16</sup>

We defined crypto-asset-related competencies as the knowledge, skills, or abilities that staff need to perform their oversight and policymaking activities related to crypto assets. Such competencies include knowledge about distributed ledger technology and blockchains, decentralized finance protocols, crypto assets, or crypto-asset mining or validating. Such competencies also can include skills or abilities in analyzing smart contracts, conducting crypto-asset tracing, or analyzing large data sets associated with crypto assets.

SEC officials and staff reported that staff primarily have developed such competencies through work experience and training. In our six focus groups, staff reported they largely developed their knowledge of crypto assets through their work, which includes investigations and enforcement actions, examinations, disclosure reviews, or policymaking related to crypto assets. Staff also gained knowledge by reviewing research, collaborating, consulting with SEC subject matter experts, or using technology tools to analyze transactions and other data. Staff also took internal and external training on crypto assets or other fintech, which we discuss in more detail below. Some staff, such as subject matter experts, have completed relevant academic coursework or had prior industry experience.

SEC divisions and FinHub rely on one or a combination of two strategies to organize or manage their crypto-asset staff. Specifically, the divisions have either (1) created a specialty unit comprised of dedicated staff who focus primarily on crypto-asset related matters, (2) have designated certain staff as subject matter experts to serve as resources for staff

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<sup>15</sup>Examinations estimated around 10 percent of its staff worked on examinations that involved crypto assets from 2019 through 2022. Trading and Markets estimated around 18 percent of its staff worked on policymaking and rulemaking involving crypto assets from 2018 through 2023. Investment Management estimated around 6 percent of its staff and supervisors worked on matters related to crypto assets to some extent from 2019 through 2023.

<sup>16</sup>For the purposes of this report, we use the term “SEC official” to mean senior executives within a division or office and the term “SEC staff” to mean staff below senior executives.

working on crypto-asset related matters, or (3) have used a hybrid of the two approaches.

- Enforcement adopted the first model by creating a specialty unit. In 2017, Enforcement created the Cyber Unit (which was renamed the Crypto Assets and Cyber Unit in 2022) to protect investors in crypto-asset markets from cyber-related threats. In 2022, SEC allocated 20 additional positions to the unit—bringing the total staff to approximately 50.
- Rather than create specialty units, DERA, Investment Management, and Trading and Markets have identified eight, 10, and three staff, respectively, as subject matter experts in crypto assets to help support other staff.
- Corporation Finance has taken a hybrid approach. In 2018, SEC established FinHub within Corporation Finance to lead the agency’s efforts to encourage responsible fintech innovation. In 2020, FinHub was designated a stand-alone office, as discussed in more detail below. In 2022, Corporation Finance established the Office of Crypto Assets as part of its Disclosure Review Program to review company filings involving crypto assets. In addition, the division has identified nine staff as subject matter experts in crypto assets outside of the Office of Crypto Assets, who provide support to other staff.
- Examinations also has taken a hybrid approach. The division has two staff who serve as subject matter experts and according to officials recently established a specialized examination team that serves as division-wide subject matter experts in crypto assets.

In addition, SEC has informal working groups on crypto assets or other fintech topics. For example, FinHub heads a “crypto quants” working group whose members include staff from across SEC’s divisions and offices.<sup>17</sup> The group meets regularly to share knowledge about understanding, analyzing, and managing quantitative crypto-asset data. Similarly, DERA, Examinations, and Trading and Markets each has a working group whose members share knowledge about crypto assets and other topics.

In five of our six focus groups, staff said they generally had the competencies needed to carry out their work and that they routinely relied on subject matter experts and other colleagues to help answer questions

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<sup>17</sup>Enforcement staff formed a cross-agency working group in 2013 focusing on distributed ledger technology, according to officials.

and share information about crypto-asset related matters. Representatives of five of nine industry and other associations we interviewed said that FinHub and other SEC staff possess fintech expertise. In contrast, representatives from three industry associations said that SEC staff may lack fintech expertise because, among other reasons, SEC cannot match private sector salaries.

Hiring of Staff with Crypto-Asset Competencies

As shown in table 2, SEC divisions and FinHub posted 40 job announcements for positions specifically identifying competencies related to crypto assets during 2019–2023. These announcements included positions for attorneys, financial and fraud analysts, and an accountant. To fill some of the positions, SEC listed positions on specialized job search websites and used special hiring authorities. SEC filled or internally reassigned most of the posted positions, according to SEC officials.

**Table 2: Number of SEC Job Announcements Identifying Crypto-Asset Competencies, 2019–2023**

| Division or office                                    | Number of Positions |          |          |           |           | Total     |
|---|---------------------|----------|----------|-----------|-----------|-----------|
|   | 2019                | 2020     | 2021     | 2022      | 2023      |           |
| Corporation Finance                                   | 0                   | 0        | 0        | 1         | 3         | 4         |
| Enforcement   | 0                   | 0        | 1        | 13        | 4         | 18        |
| Examinations  | 1                   | 0        | 0        | 2         | 4         | 7         |
| Investment Management                                 | 1                   | 0        | 0        | 1         | 0         | 2         |
| Strategic Hub for Innovation and Financial Technology | 0                   | 0        | 4        | 2         | 1         | 7         |
| Trading and Markets                                   | 1                   | 0        | 0        | 1         | 0         | 2         |
| <b>Total</b>  | <b>3</b>            | <b>0</b> | <b>5</b> | <b>20</b> | <b>12</b> | <b>40</b> |

Source: GAO summary of Securities and Exchange Commission (SEC) information. | GAO-24-106635

OHR conducts human capital reviews in collaboration with divisions and offices that discuss, among other things, their capacity and capability to meet current mission needs. OHR’s FY 2022 human capital reviews found that crypto-asset skills continued to be in high demand across the divisions and offices. Further, the reviews found that it was difficult to find talent with skills related to crypto assets, artificial intelligence, cybersecurity, and machine learning. Finally, the reviews found that the requirement for crypto-asset subject matter experts to divest their crypto-asset holdings to ensure compliance with federal conflicts of interest laws

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was a disincentive to job candidates.<sup>18</sup> According to division officials, retaining staff with crypto-asset competencies has not been a problem. Each division has experienced the departure of between none and three staff with crypto-asset-related competencies over the past few years.

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<sup>18</sup>Securities and Exchange Commission, Office of Inspector General, *The Inspector General's Statement on Management and Performance Challenges* (Washington, D.C.: Oct. 31, 2023).



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## Training on Crypto Assets and Related Technology

SEC and the divisions have taken steps to assess, develop, and provide training related to crypto assets, based on our review of agency-wide and division-level training records and interviews with SEC officials and staff.

- **Assessing training needs.** Some divisions—such as Examinations and Trading and Markets—surveyed managers to identify staff training needs, while others discussed such needs orally, according to division officials. Division management worked with OHR or its learning officers to ensure that training offerings aligned with staff needs, according to OHR and division officials.
- **Developing training.** SEC University coordinated with divisions and offices to make training resources available to staff.<sup>19</sup> SEC contracted with several external vendors to offer training on crypto assets and other fintech topics. In addition to agency-wide training resources, each division is allocated funds to provide training for specific staff needs. SEC University has worked with external training contractors and divisions and offices to identify external course content that aligns with staff needs. For example, in early 2023, SEC University, Enforcement, and FinHub, began coordinating with an external training vendor to identify a training course on crypto assets.
- **Implementing training.** SEC provided a range of training through SEC University on crypto assets and related technologies from 2019 through May 2023. As shown in table 3, about 6,000 participants attended one or more fintech-related training courses, including training related to crypto assets, data analysis, and computer coding. Resources included internal and external online courses, such as webinars, e-books, and internal and external instructor-led training. In addition, the divisions provided staff with training and knowledge-sharing sessions on crypto-asset-related issues. Further, FinHub developed and led training sessions for all SEC staff on topics such as crypto assets, distributed ledger technology, and decentralized finance.

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<sup>19</sup>SEC University is part of OHR and collaborates with the divisions and offices to conduct training needs assessments and develop training plans to address the identified needs.

**Table 3: SEC’s Financial Technology-Related Training Courses and Their Attendance, 2018–May 2023**

| Courses/Attendees                                    | External training          | Instructor-led and internal training | Online (self-paced) | Total              |       |
|--|----------------------------|--------------------------------------|---------------------|--------------------|-------|
| <b>Total number of courses or events<sup>a</sup></b> | 87                         | 219 <sup>b</sup>                     | 200                 | 506 <sup>c</sup>   |       |
| <b>Total number of attendees</b>                     | 110                        | 5,753                                | 223                 | 6,086 <sup>d</sup> |       |
| Attendees by division/office                         | Corporation Finance        | 1                                    | 356                 | 10                 | 367   |
|  | Economic and Risk Analysis | 11                                   | 215                 | 95                 | 321   |
|  | Enforcement                | 20                                   | 1,904               | 45                 | 1,969 |
|  | Examinations               | 42                                   | 2,356               | 34                 | 2,432 |
|  | FinHub                     | 1                                    | 29                  | 2                  | 32    |
|  | Investment Management      | 14                                   | 409                 | 13                 | 436   |
|  | Trading and Markets        | 21                                   | 484                 | 24                 | 529   |

Source: GAO summary of the Securities and Exchange Commission (SEC) data. | GAO-24-106635

<sup>a</sup>Courses and events included crypto-asset and related technology training courses, seminars, conferences, both online and in person.

<sup>b</sup>Some instructor-led courses consisted of multiple sessions.

<sup>c</sup>Total courses included external, vendor-provided, and self-paced online content, such as e-books on computer coding or other technologies.

<sup>d</sup>SEC staff attended multiple courses so the total number of attendees exceeds the number of SEC employees.

- **Evaluating training and collecting feedback.** OHR and certain divisions have surveyed staff on whether the training met their needs. SEC has expanded and developed training offerings in response to the feedback. One of the most popular training courses was FinHub’s training on decentralized finance, which had more than 300 attendees each in multiple sessions during 2018–May 2023.

**SEC Staff Views of Crypto-Asset-Related Training**

In prior work, we found SEC staff generally were satisfied with training resources and opportunities.<sup>20</sup> Similarly, our focus groups found staff have been satisfied with training related to crypto assets. Participants in three or more of our six focus groups reported that

- external and internal training on crypto-asset related topics had helped them perform their work;

<sup>20</sup>For more information, see *Securities and Exchange Commission: Employee Views of Personnel Management Improved, but Action Needed on Measuring Diversity and Inclusion Goals*, GAO-23-105459 (Washington, D.C.: Dec. 22, 2022).

- formal internal training was extremely useful, particularly the FinHub trainings on distributed ledger technology and decentralized finance;
- informal knowledge sharing among their colleagues was particularly valuable; and
- SEC managers were supportive of training on crypto-asset related issues.

In our focus groups, participants identified some challenges related to training, including the following:

- Participants in four groups said finding relevant external training courses had been difficult, because the crypto-asset industry has evolved rapidly in recent years.
- SEC requires employees with core job responsibilities related to crypto assets to divest and avoid trading or otherwise owning crypto assets, consistent with 18 U.S.C. § 208. Participants in four of six groups said this prohibition hindered their ability to understand practical aspects of the crypto-asset market or to assign staff for this work.
- Participants in three groups told us that their heavy workloads limited their ability to attend training.
- Participants in four groups told us that internal subject matter experts were sometimes too busy to respond to crypto-asset related questions in a timely manner or that it can be hard to know whom to contact with questions about crypto-asset related work.

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## SEC Assessed Its Needs for Crypto Competencies but Has Not Developed a New Workforce Plan to Address Its Future Needs

### Past Strategic Workforce Planning

In 2019, SEC developed and began to implement its FY 2019–2022 workforce planning strategy, which outlined processes for workforce and succession planning.<sup>21</sup> Key components of SEC’s new workforce and succession planning processes addressed weaknesses identified in our

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<sup>21</sup>See GAO, *Securities and Exchange Commission: Personnel Management Shows Improvement, but Action Needed on Performance Management System*, [GAO-20-208](#) (Washington, D.C.: Dec. 19, 2019).

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prior work.<sup>22</sup> The components included skills gap analysis, human capital reviews, and succession planning.

Under its FY 2019–2022 workforce planning strategy and related human capital plans, SEC has taken actions to help meet its crypto-asset competency needs by providing training and hiring new staff, as discussed above. Some of these actions generally reflected leading workforce practices that GAO has previously identified.<sup>23</sup> Examples include the following:

- **Regularly assess staffing needs.** A leading workforce practice is to develop competency and staffing requirements, regularly assess competency and staffing needs, and analyze the workforce to identify gaps in those areas. Consistent with this leading practice, as part of SEC’s budget process, OHR conducts human capital reviews with SEC divisions to annually assess their need for staff, including those with crypto-asset competencies.
- **Develop strategies and plans to address gaps.** Another leading workforce practice is to develop strategies and plans to address gaps in competencies and staffing. In its FY 2020–2022 human capital strategic plan, OHR formulated goals, objectives, and initiatives that aligned with goals outlined in SEC’s FY 2018–2022 strategic plan. The plan noted that OHR will help address gaps in competencies and staffing related to crypto assets through hiring and training.
- **Source and recruit talent.** Our past work noted that agencies should implement recruitment and hiring activities to address skill and staffing gaps. SEC used its special hiring authorities to target hiring for some positions requiring competency in crypto assets. It also posted some announcements on specialty job websites.
- **Establish and track recruiting metrics.** Establishing and tracking metrics to monitor the effectiveness of the recruitment program and hiring process is another leading practice for workforce planning.

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<sup>22</sup>We previously reported on SEC’s personnel management in 2013, 2016, 2019, and 2022. See GAO, *Securities and Exchange Commission: Personnel Management Shows Improvement, but Action Needed on Performance Management System*, [GAO-20-208](#) (Washington, D.C.: Dec. 19, 2019); *Securities and Exchange Commission: Actions Needed to Address Limited Progress in Resolving Long-Standing Personnel Management Challenges*, [GAO-17-65](#) (Washington, D.C.: Dec. 29, 2016); *Securities and Exchange Commission: Improving Personnel Management Is Critical for Agency’s Effectiveness*, [GAO-13-621](#) (Washington, D.C.: July 18, 2013); and [GAO-23-105459](#).

<sup>23</sup>See GAO, *State Department: Additional Actions Needed to Address IT Workforce Challenges*, [GAO-22-105932](#) (Washington, D.C.: July 12, 2022).

Consistent with that practice, OHR surveyed managers on whether new employees were a good hire, whether the position filled a unique skill set, and whether the managers used specialized recruiting techniques. Recent surveys covered new hires with crypto-asset competencies.

### Current Strategic Workforce Planning

Our 2016 review found that SEC's workforce plan lacked a comprehensive skills gap analysis covering all SEC occupations.<sup>24</sup> In 2018, SEC conducted a competency survey to identify skills gaps by position in each division and office, addressing our finding. The 2018 study did not cover crypto-asset competencies; rather, the study focused on competencies by position (e.g., attorney, accountant, or economist). In 2023, SEC started to conduct a new agency-wide competency survey to identify skills gaps in its workforce. SEC officials said the current competency study focuses on critical job functions (e.g., rulemaking, investigations, and examinations) and plans to cover crypto-asset and other competencies. SEC hired a contractor to help conduct the study, which is expected to take 2 years, according to officials.

In its FY 2022–2026 strategic plan, SEC stated that it must continue to enhance its expertise in and devote increased resources to crypto assets to keep pace with the industry's rapid growth. Similarly, in its FY 2024 annual performance plan, SEC noted the substantial growth in the crypto-asset markets and its need for additional resources to continue to address issues related to oversight of this rapidly evolving industry. SEC included in its FY 2024 congressional budget justification requests for funds to hire staff to work on matters related to crypto assets.

According to Office of Personnel Management guidance, the first step in workforce planning involves linking the workforce planning process with the agency's strategic plan, annual performance plan, and work activities required to carry out the plans' goals and objectives.<sup>25</sup> SEC's FY 2019–2022 workforce planning strategy was linked to the goals and objectives

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<sup>24</sup>We recommended that SEC conduct a skills gap analysis across its entire workforce. See [GAO-17-65](#). In 2018, SEC implemented our recommendation by conducting an agency-wide competency survey to identify and analyze skills gaps by position in each division and office. See [GAO-20-208](#).

<sup>25</sup>Office of Personnel Management, *Workforce Planning Model*, accessed Oct. 13, 2023, <https://www.opm.gov/policy-data-oversight/human-capital-framework/reference-materials/strategic-alignment/workforceplanning.pdf>

of SEC's FY 2018–2022 strategic plan. Further, the FY 2019–2022 workforce planning strategy stated that SEC would update the strategy in 2022 or earlier if necessary.

However, SEC has not updated its FY 2019–2022 workforce planning strategy with a new strategy. According to OHR officials, delays in updating its workforce planning strategy resulted from competing priorities and limited resources associated with the COVID-19 pandemic. OHR officials expected to update the planning strategy in 2024, but they did not have an established timeline for doing so. By developing a new workforce planning strategy that aligns with SEC's FY 2022–2026 strategic and annual performance plans, SEC would be better positioned to meet its future workforce needs and carry out its oversight and policymaking duties related to crypto assets.

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## FinHub Helps Coordinate Oversight of Fintech but Has Not Documented Its Policies or Established Performance Goals

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### FinHub Helps Coordinate SEC Oversight of Emerging Fintech

FinHub serves as a public resource for information about SEC and SEC staff views and actions related to fintech. It also serves as an internal source of subject matter expertise to coordinate and advise on SEC work on fintech issues. As noted previously in this report, in 2018, SEC established FinHub within the Division of Corporation Finance to encourage responsible innovation in emerging fintech. In December 2020, SEC moved FinHub out of the division and designated it as a stand-alone office designed to foster innovation in emerging technologies in the U.S. securities markets consistent with investor protection.<sup>26</sup>

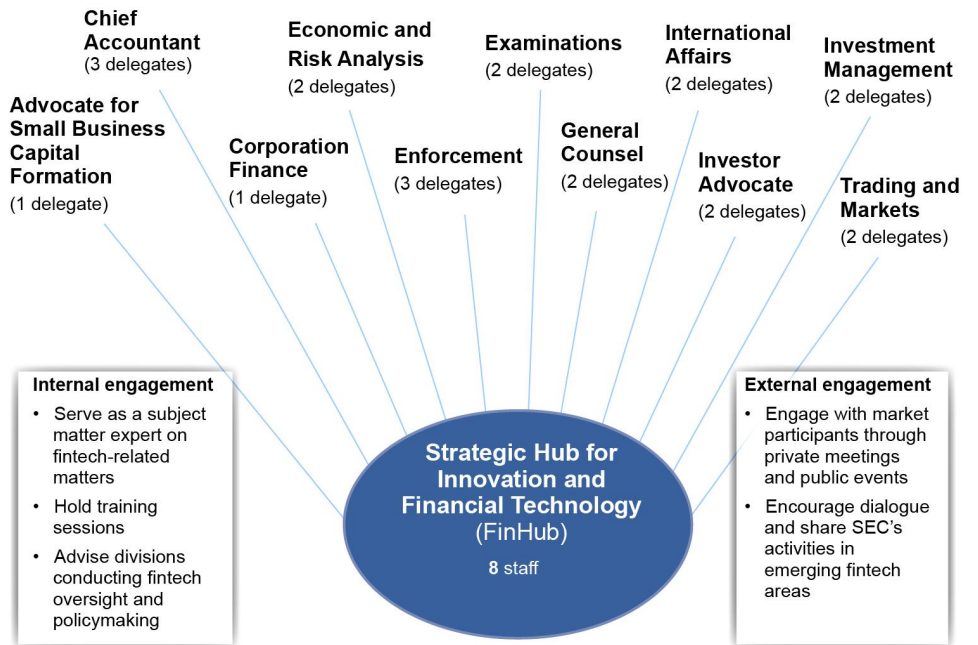
As shown in figure 1, FinHub consists of a director and seven staff (including six subject matter experts). FinHub also draws upon the

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<sup>26</sup>See Securities and Exchange Commission, "SEC Announces Office Focused on Innovation and Financial Technology: FinHub Specialized Unit to Become Stand-Alone Office," Press Release (Washington, D.C.: Dec. 3, 2020).

knowledge of 22 subject matter experts from across SEC’s divisions and offices (called delegates).

**Figure 1: Structure of SEC’s Strategic Hub for Innovation and Financial Technology Including Delegates from SEC Divisions and Offices**



Source: GAO summary of Securities and Exchange Commission (SEC) data. | GAO-24-106635

**Accessible text for Figure 1: Structure of SEC’s Strategic Hub for Innovation and Financial Technology Including Delegates from SEC Divisions and Offices**  
**Strategic Hub for Innovation and Financial Technology (FinHub) 8 staff**

Advocate for Small Business Capital Formation (1 delegate)

Chief Accountant (3 delegates)

Corporation Finance (1 delegate)

Economic and Risk Analysis (2 delegates)

Enforcement (3 delegates)

Examinations (2 delegates)

General Counsel (2 delegates)

International Affairs (2 delegates)

Investor Advocate (2 delegates)

Investment Management (2 delegates)

Trading and Markets (2 delegates)

**Internal engagement**

- Serve as a subject matter expert on fintech-related matters
- Hold training sessions
- Advise divisions conducting fintech oversight and policymaking

**External engagement**

- Engage with market participants through private meetings and public events
- Encourage dialogue and share SEC’s activities in emerging fintech areas

Source: GAO summary of Securities and Exchange Commission (SEC) data. | GAO-24-106635

External Engagement

FinHub engages with market participants through private meetings and public events.<sup>27</sup> It has met with firms to discuss crypto assets, automated investment advice, and other fintech areas that may implicate federal securities laws, or to provide other assistance. The office also has held “peer-to-peer meet-ups” in which FinHub and its delegates meet with fintech firms and other stakeholders. The meet-ups are organized around fintech topics and their impact on markets and investors. FinHub has participated in domestic and foreign public events, regulatory meetings, conferences, tech sprints, and forums. For example, in 2019, it held a fintech forum on capital formation and distributed ledger technology innovations. Table 4 shows the number of external inquiries that FinHub has received and outreach events it attended in FYs 2021–2023.

**Table 4: External Inquiries Received and Outreach Events Attended by the Strategic Hub for Innovation and Financial Technology, Fiscal Years (FY) 2021–2023**

| Activity           | FY 2021 # | FY 2022 # | FY 2023 # |
|--------------------|-----------|-----------|-----------|
| External inquiries | 277       | 243       | 257       |
| Outreach events    | 26        | 28        | 37        |

Source: GAO summary of Securities and Exchange Commission (SEC) data. | GAO-24-106635

According to SEC officials, in meetings with market participants, FinHub staff provide an overview of their views regarding application of the securities laws and regulations and, where appropriate, advise market participants to seek counsel or consult with another regulator. FinHub staff disclose orally that they may not provide legal advice or endorse specific projects, that staff cannot speak for the Commission, and that their discussions are not legally binding, according to officials. FinHub invites SEC staff delegates to external meetings based on the meeting’s topic. For example, if the topic was whether a crypto asset is a security, FinHub would include delegates from Corporation Finance.

<sup>27</sup>Firms or other members of the public can request meetings and other assistance from FinHub through an intake process that funnels submitted request forms from its website to the appropriate divisions and offices. Requesters specify the general subject matter of their request and provide details about the project or scope of intended action with SEC staff.



Representatives from three of the nine organizations we interviewed said they believed FinHub had become less collaborative over the years. These representatives noted that when FinHub was created, the organizations' members would meet with FinHub staff to help educate them on their technologies. In turn, FinHub staff would share information and help members identify red flags related to the application of the federal securities laws to their technologies. Further, FinHub might advise members on requesting a no-action letter from the appropriate division.<sup>28</sup> According to two representatives, FinHub has become less willing to share information. As a result, they said their members no longer see a potential benefit in meeting with FinHub. Rather, members see risk, as they believe that engagement with FinHub may identify an activity of interest to Enforcement.

### Internal Engagement

Within SEC, FinHub serves as a subject matter expert on fintech-related matters. FinHub staff identify and analyze emerging innovations and technologies and advise the SEC Chair's office and other staff on various issues, such as by providing technical assistance relating to rulemaking or other policymaking. FinHub reported that it advised SEC divisions on six interpretive letter requests and reviewed six rulemakings in FY 2022.<sup>29</sup> FinHub officials told us SEC's divisions are responsible for issuing no-action and interpretive letters and undertaking rulemakings.

In addition, as noted earlier, FinHub develops and leads training sessions to educate other SEC staff. According to SEC, FinHub has led 12 training sessions on fintech topics, including crypto assets, distributed ledger technology, and decentralized finance. Staff in all our focus groups reported they valued FinHub's expertise and attended its training sessions. They said such training helped them better understand the technology in their oversight or policymaking roles.

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<sup>28</sup>SEC staff said the no-action letter process allows for engagement with companies and offers insight into their products and services, while potentially providing a degree of comfort to the participating companies.

<sup>29</sup>Interpretive letters are issued by SEC staff in response to requests for informal advice and provide a current statement of the staff's views concerning the application of the securities laws to particular transactions as requested. The interpretive letters neither represent the SEC Commission's views nor constitute legal advice.

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## FinHub Has Developed but Not Documented Internal Controls

FinHub has developed but not documented internal controls to mitigate risks. As part of its efforts to establish a system of internal control, FinHub prepared risk and control matrixes in FY 2021, 2022, and 2023. These risk and control matrixes identified risks that could undermine FinHub's ability to achieve its objectives and internal controls that could mitigate those risks.<sup>30</sup> SEC did not assess FinHub's internal controls as part of its FY 2021 or FY 2022 internal control reviews. SEC officials told us they did not include FinHub in the review, in part because the office was small and relatively new.

As part of its FY 2023 internal control review, SEC's Office of the Chief Risk Officer assessed one of two internal controls in FinHub's FY 2023 risk and control matrix and found it to be effectively designed and implemented. SEC officials told us the office conducts risk-based reviews and did not assess both of FinHub's controls because the controls did not cover high-risk activities and the office has limited resources. Both of FinHub's internal controls cover requests for technical assistance—responding to both internal and external requests consistently and accurately—and require the office's director or deputy director to review work products as the control activity. Further, the office relied on testimonial evidence about the internal control from FinHub staff because FinHub did not formally document its policies and procedures. The office did not believe this lack of formal policies or procedures affected its review, because the office was able to follow, verify, and document FinHub's process.

According to federal internal control standards, management should implement control activities through policies.<sup>31</sup> Management documents internal control responsibilities of the organization in its policies. According to SEC officials, after becoming an independent office in December 2020, the office focused on hiring staff and developing a process to respond to external requests but also was in the process of

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<sup>30</sup>Through their annual risk-assessment process, SEC divisions and offices identify and analyze risks associated with achieving their objectives and determine whether internal controls are needed. The divisions and offices record the results of their risk assessments in a risk and control matrix.

<sup>31</sup>GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: Sept. 10, 2014).

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developing policies and procedures to implement its internal controls. However, as of October 2023, FinHub had not documented in writing its policies and procedures for implementing its internal controls policies. Doing so would provide reasonable assurance that FinHub is managing risk appropriately and operating efficiently and effectively.

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## FinHub Lacks Performance Goals and Measures

FinHub has not developed performance goals to define its expected level of performance each year and performance measures to track its progress in meeting such goals. FinHub describes its objectives as supporting SEC's mission by serving as the central hub for issues and initiatives related to developments in technology in financial services.

To support SEC's oversight of and response to emerging fintech, FinHub has identified an array of activities that it performs. Such activities include

- advising and consulting with SEC divisions through reviews of fintech-related filings, investigations and other enforcement matters, rulemakings, and examination priorities;
- reviewing no-action, interpretive, and exemptive requests;
- helping review speeches or other public materials, such as investor alerts or bulletins;
- engaging with market participants and other stakeholders, including academics, industry leaders, attorneys, and entrepreneurs; and
- building training programs and tools to assist SEC divisions and expand SEC staff's knowledge in fintech.

In its FY 2024 congressional budget justification, FinHub presented workload data that track some of its external and internal engagement activities. FinHub tracks the number of (1) external inquires it received, (2) international regulatory initiatives in which it participated, (3) no-action or interpretative letter requests on which it advised, (4) outreach events and speeches with which it was involved, and (5) rulemakings it reviewed.<sup>32</sup> However, FinHub has not linked the workload data it tracks to SEC's overall performance or established performance goals against which to measure its performance. For example, FinHub seeks to share its expertise with other SEC staff to build SEC's knowledge base but has

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<sup>32</sup>In our review, we found FinHub's workload data align with some of its activities but do not cover its training programs and tools.

not established any related goals or measures to capture its contributions, such as the number of fintech training courses it had developed or number of staff it has trained. Similarly, FinHub relies on market participant meetings to identify new fintech that will impact SEC. Although FinHub broadly measures the number of inquiries it receives, it does not have a goal or measure to capture the extent to which such inquiries provide information on new technology that impacts SEC.

The Government Performance and Results Act of 1993, as amended by the GPRA Modernization Act of 2010, can serve as leading practices for performance management and are relevant to any organizational level.<sup>33</sup> The act seeks to improve the management of federal programs and their effectiveness and efficiency by establishing a system under which agencies set goals for program performance and measure their results. As a leading practice, performance goals should be clear, targeted, measurable, and cover key aspects of programs and activities.<sup>34</sup> In turn, performance measures should be tied to program goals and demonstrate results.

When FinHub became an independent office in 2020, it largely kept the same structure and activities as when it was within Corporation Finance, where it also did not have performance goals of its own. FinHub officials told us the agency-wide performance goals govern their office, but based on our review, it has not linked the workload data it collects to the agency's performance goals. Furthermore, SEC's FY 2022 annual performance plan does not list FinHub as an owner of any of its performance goals and measures. By establishing its own performance goals and measures, FinHub would have a basis for comparing its actual

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<sup>33</sup>Pub. L. No. 103-62, 107 Stat. 285 (1993); Pub. L. No. 111-352, 124 Stat. 3866 (2011). See GAO, *Executive Guide: Effectively Implementing the Government Performance and Results Act*, [GAO/GGD-96-118](#) (Washington, D.C.: June 1996) and GAO, *The Results Act: An Evaluator's Guide to Assessing Agency Performance Plans* (Washington, D.C.: Apr. 1998). See also, GAO, *Taxpayer Service: IRS Could Improve the Taxpayer Experience by Using Better Service Performance Measures*, [GAO-20-656](#) (Washington, D.C.: Sept. 23, 2023) and GAO, *Coast Guard: Additional Actions Needed to Improve Commercial Fishing Vessel Safety Efforts*, [GAO-23-105289](#) (Washington, D.C.: Nov. 2, 2022).

<sup>34</sup>Specifically, performance goals should be (1) objective meaning that they are reasonably free from bias or manipulation that would prevent them from providing an accurate assessment of performance; (2) measurable meaning that they are able to demonstrate whether a specific level of performance can be tangibly demonstrated and independently verified; (3) quantifiable meaning that they have a numerical level or measurable value; and (4) linked to other components meaning they should clearly connect to other strategic plan components.

results against established performance goals and could identify performance gaps and adjust processes that may need additional focus or resources. In addition, clearly linked performance goals and measures could help ensure that FinHub is effectively and efficiently carrying out its key processes, such as identifying emerging fintech and building SEC's knowledge base.

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## SEC Has Taken Several Approaches to Engage Market Participants, Some of Which Have Taken Various Actions

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### SEC and Its Staff Have Taken Several Approaches to Engage Market Participants Regarding Crypto Assets

As we recently reported, SEC and its staff have engaged market participants by providing guidance and taking other actions intended to articulate its jurisdiction over crypto assets and regulatory requirements for crypto-asset-related activities of financial intermediaries.<sup>35</sup> Such engagement has included FinHub's meetings with industry participants and other activities, as discussed earlier. Our previous report included the following examples of other SEC and SEC staff engagement.

**Guidance.** SEC and its staff issued an investigative report and guidance intended to clarify the agency's jurisdiction over certain crypto assets. For example, in July 2017, SEC issued an investigative report explaining that certain digital assets may be securities and therefore subject to the agency's jurisdiction.<sup>36</sup> In April 2019, SEC staff issued a framework for

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<sup>35</sup>[GAO-23-105346](#).

<sup>36</sup>Securities and Exchange Commission, Exchange Act Rel. No. 81207, *Report of Investigation Pursuant to Section 21(a) of the Securities Exchange Act of 1934: The DAO* (July 25, 2017). In this report, SEC determined that the unregistered 2016 offering of tokens by a group known as "The DAO," a decentralized autonomous organization, were investment contracts and therefore were securities for purposes of the securities laws and subject to regulation by SEC.

analyzing whether a digital asset is an investment contract and whether offers and sales of a digital asset are securities transactions.<sup>37</sup>

SEC and its staff issued guidance to broker-dealers intended to clarify regulatory requirements for activities related to crypto assets. For example, in 2019, the Financial Industry Regulatory Authority and SEC staff issued a joint statement on broker-dealer custody of crypto-asset securities that described models for registered broker-dealers' activities involving such securities.<sup>38</sup> These models did not involve the broker-dealer engaging in custody functions. In September 2020, SEC staff issued a no-action letter to the Financial Industry Regulatory Authority supplementing the joint statement for registered broker-dealers that operate alternative trading systems.<sup>39</sup>

In December 2020, SEC issued a statement and request for comment regarding broker-dealer custody of crypto-asset securities. The statement noted that for 5 years SEC would not take certain enforcement actions against a broker-dealer which, operating under circumstances set forth in the statement, maintains custody of crypto-asset securities and complies with the conditions set forth in the statement.<sup>40</sup>

**Public statements.** The SEC Chair has stated his view in speeches that most crypto assets are securities because they are investment contracts

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<sup>37</sup>Strategic Hub for Innovation and Financial Technology, Framework for "Investment Contract" Analysis of Digital Assets (Washington, D.C.: Apr. 3, 2019). This framework and other staff statements referenced in this report represent the views of SEC staff. These statements are not rules, regulations, or statements of the Commission and the Commission has neither approved nor disapproved their content.

<sup>38</sup>Division of Trading and Markets and Financial Industry Regulatory Authority Office of General Counsel, *Joint Staff Statement on Broker-Dealer Custody of Digital Asset Securities* (July 8, 2019). Broker-dealers must comply with the custodial requirement of Rule 15c3-3 under the Securities Exchange Act of 1934. The rule requires broker-dealers to obtain and maintain physical possession or control of all fully paid and excess margin securities they carry for the account of customers. 17 C.F.R. § 240.15c3-3(b).

<sup>39</sup>Trading and Markets, Letter to Ms. Kris Dailey, Financial Industry Regulatory Authority, *ATS Role in the Settlement of Digital Asset Security Trades* (Washington, D.C.: Sept. 25, 2020). SEC staff have issued several no-action letters in connection with firms conducting activities related to crypto-asset securities, in which agency staff state that they do not intend to recommend an enforcement action against a firm if it offers products or operates in the way described by the firm in a no-action request letter to the regulator.

<sup>40</sup>*Custody of Digital Asset Securities by Special Purpose Broker-Dealers*, 86 Fed. Reg. 11627 (Feb. 26, 2021).

under the *Howey* test.<sup>41</sup> In a September 2022 speech, he noted that some crypto-asset market participants called for further guidance from SEC. But he stated that SEC had “spoken with a pretty clear voice” through, among other things, its 2017 investigative report on digital assets, and enforcement actions.<sup>42</sup>

With respect to crypto-asset intermediaries, the SEC Chair said he asked SEC staff to consider how investors might be allowed to trade crypto-asset nonsecurities versus or alongside crypto-asset securities. However, he stated that the commingling of exchange, broker-dealer, custodial, and other services within crypto-asset intermediaries creates conflicts of interests and risks for investors that SEC does not allow in other marketplaces. He asked SEC staff to work with crypto-asset intermediaries to ensure they register each of their functions, which could result in the intermediaries disaggregating these functions into separate legal entities to mitigate conflicts of interest and enhance investor protection.<sup>43</sup>

Members from crypto-asset industry associations that we interviewed expressed differing views on SEC and SEC staff guidance. One member told us SEC staff’s 2019 framework was helpful because it broadly defined a security to include crypto assets. In contrast, another member told us the framework was not helpful because it listed many factors to consider but did not prioritize them. In addition, two members told us they found SEC’s 2017 investigative report to be useful, in part because it was based on Enforcement’s tools and described SEC’s thought process.

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<sup>41</sup>See, for example, Gary Gensler, Chair, Securities and Exchange Commission, “Kennedy and Crypto,” Sept. 8, 2022. The SEC Chair reiterated these views more recently in a September 2023 testimony before the House Committee on Financial Services. See also Gensler, “We’ve Seen This Story Before,” Remarks before the Piper Sandler Global Exchange & Fintech Conference (June 8, 2023).

<sup>42</sup>Gensler, “Kennedy and Crypto.”

<sup>43</sup>SEC has charged several crypto-asset trading platforms (and, in certain cases, particular individuals associated therewith) alleging that they are operating as an unregistered national securities exchange, broker, dealer, and/or clearing agency. See, for example, *SEC v. Bittrex, Inc., Bittrex Global GMBH, and William Hiroaki Shihara*, No. 2:23-cv-00580 (W.D. Wash filed Apr. 17, 2023); *SEC v. Binance Holdings Limited, BAM Trading Services, Inc., BAM Management US Holdings Inc., and Changpeng Zhao*, No. 1:23-cv-01599, (D.D.C. filed June 5, 2023); and *SEC v. Coinbase, Inc. and Coinbase Global, Inc.*, No. 1:23-cv-04738, (S.D.N.Y. filed June 6, 2023).

They and other members told us that more formal guidance, and additional no-action letters, also would have been helpful.<sup>44</sup>

**Enforcement actions.** SEC initiated enforcement actions to address alleged lack of compliance with registration and other requirements. As of September 2023, SEC had initiated over 130 enforcement actions related to crypto assets, including those against crypto-asset trading platforms allegedly functioning as unregistered national securities exchanges.

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### Some Crypto-Asset Market Participants Have Registered with SEC or Taken Other Actions

SEC identified nine firms that either registered their crypto tokens or coins as a class of securities or registered the offer and sale of their crypto tokens under the federal securities laws or qualified an offering statement pursuant to an exemption from registration, as of June 2023.<sup>45</sup> Five of the issuers settled charges with SEC for offering securities in unregistered transactions and subsequently registered a class of securities under the Securities and Exchange Act of 1934 as part of their settlement terms.

The other four issuers either registered the offer and sale of their crypto tokens or coins as securities under the Securities Act of 1933, as amended, or qualified an offering statement pursuant to an exemption from registration. One issuer noted that it had a goal of establishing a security token that provides regulatory clarity to the blockchain asset industry by, among other things, differentiating between security and nonsecurity asset classes. Another issuer announced it stopped offering its token and supporting its token-related program because of regulatory constraints under the securities laws.

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<sup>44</sup>The Division of Corporation Finance has issued no-action letters indicating that it will not recommend enforcement action to the Commission if the digital assets described in the requests are offered or sold without registration under the federal securities laws. See TurnKey Jet, Inc., Division of Corporation Finance No-Action Letter (Apr. 3, 2019) and Pocketful of Quarters, Inc., Division of Corporation Finance No-Action Letter (July 25, 2019).

<sup>45</sup>Coinmarketcap.com (an industry source) estimated that there are around 8,000 coins, tokens, and projects in the global coin market as of October 19, 2023, and did not provide information on the number of coins available in the United States.



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As of October 2023, no platform trading in crypto-asset securities had registered with SEC as a national securities exchange, according to SEC.<sup>46</sup>

Some broker-dealers are engaging or planning to engage in crypto-asset activities. For example, as of June 2023, 11 broker-dealers operate or notified SEC of their intent to operate an alternative trading system for crypto-asset securities, according to SEC officials.<sup>47</sup> In addition, a broker-dealer was approved to operate as a special purpose broker-dealer and thus to maintain custody of digital-asset securities. According to the broker-dealer's website, it is building a vertically integrated, blockchain-enabled platform for the issuance, trading, settlement, and custody of digital-asset securities.

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<sup>46</sup>Although SEC is uncertain about the total number of crypto-asset platforms, it has noted that certain sources estimate the total to range from over 200 for certain kinds of platforms and over 250 for other kinds of platforms. See *Supplemental Information and Reopening of Comment Period for Amendments Regarding the Definition of "Exchange"*, 88 Fed. Reg. 29448, 29471 (May 5, 2023).

<sup>47</sup>SEC regulations define an alternative trading system generally as any organization, association or group of persons that provides a marketplace or facilities for bringing together buyers and sellers of securities or for otherwise performing the functions commonly performed by a stock exchange. An alternative trading system does not set rules for subscribers other than the conduct of subscribers trading on the system or discipline subscribers other than by exclusion from trading. 17 C.F.R. § 242.300(a). An organization, association, or group of persons that complies with Regulation ATS, which requires, among other things, meeting the definition of an alternative trading system and registering as a broker-dealer, is exempt from the definition of "exchange" in the Securities Exchange Act. 17 C.F.R. § 240.3a1-1(a)(2). Regulation ATS consists of 17 C.F.R. §§ 242.300-304.

## SEC Uses Supervisory Technology to Enhance Oversight

SEC has developed and implemented supervisory technology tools for overseeing the securities markets and market participants.<sup>48</sup> Supervisory technology generally refers to innovative tools or techniques that agencies use to support their supervision or oversight.<sup>49</sup> Supervisory technology is used to collect and process external data and to analyze the data using artificial intelligence, machine learning, or other analytics. Table 5 summarizes selected supervisory technology tools that SEC has developed and implemented since 2012 to enhance its oversight.

**Table 5: Selected Supervisory Technology Tools Used by SEC**

| Name of technology                               | Description                        | Strategic plan objective(s) supported by tool   | SEC division(s) or office(s) that use tool  | Year tool was established   |      |
|--|------------------------------------|---|---|---|------|
| <b>Data collection or processing<sup>a</sup></b> | Consolidated Audit Trail           | A system to collect and track data on activity throughout U.S. markets in National Market System securities.                        | Objective 1.2: Enhance the use of market and industry data to prevent, detect, and enforce against improper behavior  | Economic and Risk Analysis, Enforcement, Examinations, Trading and Markets          | 2019 |
|  | eD3 CasePoint Cloud                | A system to collect, manage, and maintain a repository of electronic images relating to case files.                                 | Objective 3.4: Modernize SEC's technology to enable the mission in a cost-effective, secure, and resilient manner   | Enforcement, Examinations, Office of General Counsel                                | 2020 |
|  | Interactive Data Analysis Platform | A centralized repository to consolidate data submitted in eXtensible business reporting language and support/feed analytical tools. | Objective 1.3: Modernize design, delivery, and content of disclosures so that investors can access consistent, comparable, and material information to make informed investment decisions | Economic and Risk Analysis, Corporation Finance, Enforcement, Investment Management | 2012 |

<sup>48</sup>SEC has leveraged technology to support its oversight mission for many years. For example, since 1993, SEC has mandated electronic filing through its Electronic Data Gathering, Analysis, and Retrieval system to integrate digital disclosure requirements by registered entities and to monitor compliance.

<sup>49</sup>See, for example, Broeders, Dirk, and Jermy Prenio, *FSI Insights on policy implementation no. 9, "Innovative Technology in Financial Supervision (Suptech) – The Experience of Early Users,"* Financial Stability Institute and Bank for International Settlements (2018).

Letter

| Name of technology  | Description   | Strategic plan objective(s) supported by tool   | SEC division(s) or office(s) that use tool  | Year tool was established |
|---|---|---|---|---------------------------|
| Office of Structured Disclosure Information Delivery System | A portal to provide data and analyses about funds, broker- dealers, advisers, and other topics.   | Objective 1.3: Modernize design, delivery, and content of disclosures so that investors can access consistent, comparable, and material information to make informed investment decisions   | Corporation Finance, Economic and Risk Analysis, Enforcement, Examinations, Investment Management | 2012                      |
| SWAPS Data Repository                                       | Assists staff's oversight of the security-based swaps markets to help identify risks and assess registrants' compliance with the regulatory regime implemented pursuant to Title VII of the Dodd Frank Act. | Objective 1.2: Enhance the use of market and industry data to prevent, detect, and enforce against improper behavior  | Examinations, Enforcement, Trading and Markets, Economic and Risk Analysis                        | 2022                      |
| <b>Data Analytics</b>                                       | Broker-Dealer Viewable Analytics Dashboard for Registrants  | Objective 1.1: Enhance examination initiatives focused on identifying and addressing risks and misconduct that affects individual investors<br><br>Objective 1.2: Enhance the use of market and industry data to prevent, detect, and enforce against improper behavior | Examinations  | 2019                      |
| Corporate Issuer Risk Assessment Tool                       | A tool to detect anomalous patterns in financial reporting and identify situations or activities that may warrant further inquiry.  | Objective 1.2: Enhance the use of market and industry data to prevent, detect, and enforce against improper behavior  | Enforcement   | 2015                      |
| High-Frequency Analytics Lab                                | A tool to produce reports on SEC registrants and market behavior to help identify potentially unfair market practices and major market events   | Objective 1.2: Enhance the use of market and industry data to prevent, detect, and enforce against improper behavior  | Examinations  | 2017                      |
| Market Information Data Analytics System                    | A tool that combines market data disseminated by securities trading platforms (e.g., exchanges) and analytical tools to query, analyze, and visualize high frequency time-series data.                      | Objective 1.2: Enhance the use of market and industry data to prevent, detect, and enforce against improper behavior  | Trading and Markets, Economic and Risk Analysis, Investment Management, Examinations, Enforcement | 2013                      |

Letter

| Name of technology           | Description  | Strategic plan objective(s) supported by tool   | SEC division(s) or office(s) that use tool | Year tool was established |
|------------------------------|--|---|--|---------------------------|
| National Exam Analytics Tool | A tool to collect and analyze large data sets of trading records to identify potentially problematic activity and better understand a firm's business during examinations. | Objective 1.1: Enhance examination initiatives focused on identifying and addressing risks and misconduct that affects individual investors | Examinations                               | 2018                      |

Source: GAO summary of Securities and Exchange (SEC) Commission information. | GAO-24-106635

Notes: This table of SEC's supervisory technology tools is not comprehensive, and we did not verify the effectiveness or limitations of these tools.

<sup>a</sup>These categories of supervisory technology are based on a taxonomy from the Cambridge SupTech Lab. Simone di Castri et al., *State of SupTech Report 2022* (Cambridge: Cambridge Centre for Alternative Finance, University of Cambridge: 2022), accessed February 13, 2023, <https://www.jbs.cam.ac.uk/faculty-research/centres/alternative-finance/publications/state-of-suptech-report-2022/>.

SEC's FY 2022–2026 strategic plan includes using technology to support its goals of (1) protecting investors, (2) developing and implementing a robust regulatory framework, and (3) supporting a skilled workforce.<sup>50</sup>

SEC divisions have used the technology tools summarized above to support these and other goals, such as in the following ways:

- Enforcement has used data analytics tools to detect potentially fraudulent trading and data reporting violations, as well as other potential violations of the federal securities laws.
- Examinations has used data analytics tools to identify potentially illegal activity and scope its examination work to focus on high-risk areas.
- Corporation Finance has used DERA's structured information disclosure system to assist in its analysis and reviews of asset-backed securities.
- Trading and Markets has used a data analytics system to support work related to the development of policy, market monitoring, and assessment of compliance of existing rules.

In its FY 2024 annual performance plan, SEC included two new performance goals related to supervisory technology. One goal will measure the number of innovative or analytical models, tools, capabilities, platforms, and other solutions deployed or made available to SEC staff.

<sup>50</sup>Securities and Exchange Commission, *Strategic Plan, Fiscal Years 2022–2026* (Washington, D.C.: Nov. 23, 2022).

The plan states that such solutions are expected to support SEC's mission and provide insights into the markets it oversees, help uncover fraud, and increase work efficiencies. The other performance goal will measure the percentage of information security systems that are reported under the Financial Information Security Modernization Act of 2014 and that are current (not legacy systems).<sup>51</sup>

In its 2022 and 2023 statements on SEC's management and performance challenges, the Office of the Inspector General included the use of technology and analytics to meet SEC's mission requirements as a significant management and performance challenge facing the agency.<sup>52</sup> The Office of the Inspector General noted it recognized the importance, as did SEC management, of technology and analytics in SEC's ability to meet mission requirements and respond to trends in the evolving capital markets.

The Office of the Inspector General has conducted reviews of SEC technology modernization over the past decade.<sup>53</sup> For example, the office has audited SEC's use of supervisory and related technologies, including SEC's tips, complaints, and referrals system, DERA's analytic support, and SEC's redesign of the Electronic Data Gathering, Analysis, and Retrieval system.<sup>54</sup> The Office of Inspector General has made several recommendations as a result of these reviews, which SEC has

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<sup>51</sup>A legacy system refers to outdated computer systems, programming languages, or application software that are used instead of more modern alternatives. A legacy system may be problematic due to compatibility issues, obsolescence, or the lack of support.

<sup>52</sup>Securities and Exchange Commission, Office of the Inspector General, *The Inspector General's Statement on the SEC's Management and Performance Challenges, October 2023* (Washington, D.C.: Oct. 31, 2023) and *SEC OIG, The Inspector General's Statement on the SEC's Management and Performance Challenges, October 2022* (Washington, D.C.: Oct. 13, 2022). In deciding whether to identify an area as a challenge, the Office of Inspector General considers the area's significance in relation to SEC's mission; its susceptibility to fraud, waste, and abuse; and SEC's progress in addressing the challenge.

<sup>53</sup>SEC's Office of the Inspector General has reviewed SEC's initiatives to modernize its information technology enterprise architecture and to shift to cloud-based operations in compliance with federal requirements, see Securities and Exchange Commission, Office of Inspector General, *Additional Steps Are Needed For the SEC To Implement a Well-Defined Enterprise Architecture*, Report No. 568 (Washington, D.C.: Sept. 29, 2021) and *The SEC Can More Strategically and Securely Plan, Manage, and Implement Cloud Computing Services*, Report No. 556 (Washington, D.C.: Nov. 7, 2019).

<sup>54</sup>Securities and Exchange Commission, Office of Inspector General, *Final Management Letter: Update on the SEC's Progress Toward Redesigning the Electronic Data Gathering, Analysis, and Retrieval System* (Washington, D.C.: May 13, 2019).

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implemented. For example, the office recommended improvements to SEC's system of collecting and processing data on tips, complaints, and referrals, and SEC took steps such as incorporating analytics and automation tools. In addition, SEC implemented the office's recommendations that DERA track and develop metrics where possible for its data analytics activities.<sup>55</sup>

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## Conclusions

Given the complexity and potential risks of crypto assets, it is essential that SEC have staff with the competencies necessary to oversee and regulate this industry. Moreover, given the growth in crypto-asset markets, the need for such competencies likely will increase. SEC has taken several actions consistent with good workforce planning practices, such as regularly assessing staffing requirements and monitoring the effectiveness of its recruitment program. But SEC has not yet updated its 2019–2022 workforce planning strategy by creating a new plan. Doing so would better position the agency to meet its future workforce needs and to carry out its oversight and policymaking duties related to crypto assets.

The creation of FinHub has served to enhance SEC's ability to foster fintech innovation in the U.S. securities markets consistent with investor protection. While FinHub has put in place processes to guide its external and internal engagement, it has not documented the policies and procedures supporting its internal controls. Documenting such policies and procedures would help SEC ensure that FinHub is managing its risk appropriately and operating efficiently and effectively. Although FinHub has not established performance goals and measures, establishing such goals and measures would better position the office to assess its efficiency and effectiveness and make any needed improvements.

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## Recommendations

We are making the following three recommendations to SEC:

The Chair of SEC should ensure that the Chief Human Capital Officer prepares a new workforce planning strategy that is aligned with the

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<sup>55</sup>Securities and Exchange Commission, Office of Inspector General, *Although Highly Valued by End Users, DERA Could Improve Its Analytics Support by Formally Measuring Impact, Where Possible*, Report No. 553 (Washington, D.C.: Apr. 19, 2019).

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agency's 2022–2026 strategic and performance plans. (Recommendation 1)

The Chair of SEC should ensure that the Director of the Strategic Hub for Innovation and Financial Technology document its policies and procedures supporting its internal controls. (Recommendation 2)

The Chair of SEC should ensure that the Director of the Strategic Hub for Innovation and Financial Technology develop performance goals and measures that are objective, measurable, and targeted. (Recommendation 3)

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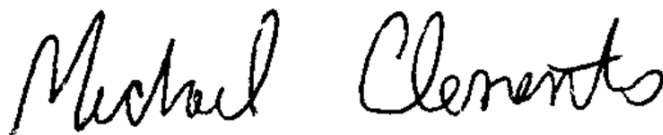
## Agency Comments

We provided a draft of this report to SEC for review and comment. In written comments (reproduced in app. II), SEC agreed with our findings and concurred with our recommendations. In addition, SEC provided technical comments, which we incorporated as appropriate.

As agreed with your office, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the report date. At that time, we will send copies of this report to the appropriate congressional committees, the Chair of SEC, and other interested parties. In addition, this report will be available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staff members have any questions about this report, please contact me at (202) 512-8678 or [clementsm@gao.gov](mailto:clementsm@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix III.

Sincerely yours,



Michael E. Clements  
Director, Financial Markets and Community Investment

## Appendix I: Objectives, Scope, and Methodology

This report examines (1) how the Securities and Exchange Commission (SEC) has assessed and met its need for staff with competencies related to crypto assets, (2) the extent to which SEC’s Strategic Hub for Innovation and Financial Technology (FinHub) has implemented policies and procedures to help ensure it operates efficiently and effectively, (3) how SEC has engaged crypto-asset market participants, and what is known about the outcomes of such engagement, and (4) how SEC has used supervisory technology to oversee the securities markets and market participants.<sup>1</sup>

For the first objective, we obtained workforce and human capital information from FinHub and six SEC divisions—the Divisions of Corporation Finance, Economic and Risk Analysis, Enforcement, Examinations, Investment Management, and Trading and Markets. We analyzed the information to determine the number and job titles of staff who possessed competencies related to crypto assets in 2023 and the number and job titles of new staff hired between 2019–2023.<sup>2</sup> We used this time frame because 2023 was the most recent available data and 2019 is when the crypto-asset industry started to grow significantly.

We obtained training data from SEC’s Office of Human Resources (OHR) that we used to analyze the number and types of training courses related to crypto assets offered to staff, and the number of staff who attended, between 2018–2023. To assess the reliability of the data, we reviewed related documentation, tested the data for missing data and errors, and obtained written responses from SEC about data quality and control. We determined the data were sufficiently reliable for the purposes of summarizing training courses that were offered by SEC and attended by staff from 2018 through May 2023.

To identify how staff developed competencies related to crypto assets, we reviewed the training data, feedback survey results from divisions, and we

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<sup>1</sup>For this report, we do not distinguish between the terms “digital asset” and “crypto asset,” both of which are issued or transferred using distributed ledger or blockchain technology.

<sup>2</sup>We defined competencies as the knowledge, skills, and abilities staff needed to carry out their oversight and policymaking responsibilities.



interviewed SEC officials and staff. In addition, we interviewed division officials and reviewed documentation, such as staffing requests and job postings to identify how SEC assesses the need for and recruits staff with such competencies. We obtained similar information from OHR that we used to supplement our analysis.

To examine SEC's strategic workforce planning and talent acquisition processes, we reviewed our prior work on SEC's personnel management.<sup>3</sup> We compared SEC's activities in these areas against leading practices we previously identified and against Office of Personnel Management guidance.<sup>4</sup>

We obtained workforce and human capital documentation from OHR, including SEC's fiscal years (FY) 2019–2022 workforce and succession planning strategy, FY 2020–2022 human capital strategic plan, FY 2020–2022 recruitment strategy, human capital planning sessions for FY 2019–2022, surveys of managers about new hires, and staff evaluations of training courses. We also reviewed related documents, such as SEC's FY 2018–2022 and FY 2022–2026 strategic plans and congressional budget justifications.

We conducted focus groups with nongeneralizable samples of nonmanagerial SEC staff from the Divisions of Corporation Finance, Enforcement, Examinations, Investment Management, and Trading and Markets to obtain information on their crypto-asset competencies and training. For each division, we conducted one focus group that was attended by five to seven staff. We also conducted a sixth focus group

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<sup>3</sup>GAO, *Securities and Exchange Commission: Personnel Management Shows Improvement, but Action Needed on Performance Management System*, [GAO-20-208](#) (Washington, D.C.: Dec. 19, 2019); *Securities and Exchange Commission: Actions Needed to Address Limited Progress in Resolving Long-Standing Personnel Management Challenges*, [GAO-17-65](#) (Washington, D.C.: Dec. 29, 2016); *Securities and Exchange Commission: Improving Personnel Management Is Critical for Agency's Effectiveness*, [GAO-13-621](#) (Washington, D.C.: July 18, 2013); and *Securities and Exchange Commission: Employee Views of Personnel Management Improved, but Action Needed on Measuring Diversity and Inclusion Goals*, [GAO-23-105459](#) (Washington, D.C.: Dec. 22, 2022)

<sup>4</sup>See GAO, *State Department: Additional Actions Needed to Address IT Workforce Challenges*, [GAO-22-105932](#) (Washington, D.C.: July 12, 2022) and *Federal Workforce: Key Talent Management Strategies for Agencies to Better Meet Their Missions*, [GAO-19-181](#) (Washington, D.C.: Mar. 28, 2019). Also see Office of Personnel Management, *Workforce Planning Model*, accessed Oct. 13, 2023, <https://www.opm.gov/policy-data-oversight/human-capital-framework/reference-materials/strategic-alignment/workforceplanning.pdf>.

that was attended by three subject matter experts from three divisions. In total, the focus groups included 32 staff, selected to reflect different experience levels, roles, and responsibilities.

We asked each group questions about their crypto-asset competencies and related training. We analyzed the focus group transcripts to identify key themes. One analyst reviewed and identified themes, and a second analyst independently conducted the same review. The two analysts then met to resolve differences. The analysts summarized key themes that were common to three or more focus groups.

For the second objective, we analyzed FinHub's operations, processes, activities, and outputs. We obtained and reviewed FinHub's internal memorandums and policies and procedures and interviewed FinHub officials. We reviewed its risk assessments, including risk and control matrixes for FY 2021–2023 and a FY 2023 review of its system of internal controls.<sup>5</sup> We reviewed SEC's congressional budget justifications, annual performance plans, and press releases, and other publicly available information.

We determined that the control activities component of internal control was significant to this objective, along with the underlying principle that management should implement control activities through policies. We assessed FinHub's policies and procedures against its risk and control matrixes and applicable federal internal control standards and SEC guidance.<sup>6</sup> We then assessed the extent to which FinHub evaluated its efforts to help coordinate SEC's oversight and response regarding emerging technology, including its use of performance goals and measures, based on practices identified in our prior work.<sup>7</sup> In addition, we interviewed representatives of a nongeneralizable sample (selected to

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<sup>5</sup>Risk and control matrixes are risk-assessment tools SEC divisions and offices use to document risks and internal controls.

<sup>6</sup>GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: Sept. 10, 2014).

<sup>7</sup>See GAO, *Executive Guide: Effectively Implementing the Government Performance and Results Act*, [GAO/GGD-96-118](#) (Washington, D.C.: June 1996) and GAO, *The Results Act: An Evaluator's Guide to Assessing Agency Performance Plans*, GGD-10.1.20 (Washington, D.C.: Apr. 1998). See also, GAO, *Taxpayer Service: IRS Could Improve the Taxpayer Experience by Using Better Service Performance Measures*, [GAO-20-656](#) (Washington, D.C.: Sept. 23, 2023) and GAO, *Coast Guard: Additional Actions Needed to Improve Commercial Fishing Vessel Safety Efforts*, [GAO-23-105289](#) (Washington, D.C.: Nov. 2, 2022).

reflect a broad range of viewpoints) of five organizations representing the fintech or securities industry (Alliance for Innovative Regulation, Blockchain Association, Financial Technology Association, Securities Industry and Financial Markets Association, and Wall Street Blockchain Alliance), one organization representing consumers and investors (Better Markets), and three securities regulators or organizations representing them (Financial Industry Regulatory Authority, New York Department of Financial Services, and North American Securities Administrators Association).

For the third objective, we reviewed relevant federal securities laws and regulations; prior GAO reports on financial technology; SEC guidance, public statements, rulemakings, and enforcement actions involving crypto assets; SEC filings by crypto-asset market participants; and other information. We analyzed how SEC has engaged crypto-asset market participants and actions that crypto-asset market participants took to comply with the federal securities laws. We interviewed management and staff from six SEC divisions and FinHub about the agency's engagement approaches and outcomes. We also discussed SEC's market engagement with representatives of the organizations cited above.

For the fourth objective, we obtained from SEC information on the supervisory technology tools that its divisions and offices use to collect and analyze data to oversee the U.S. securities markets and market participants. We compared the supervisory technology tools against SEC's 2022–2026 strategic plan to determine how these tools support the plan's goals and objectives. We also reviewed SEC reports, press releases, and other information to analyze SEC's use of the tools to detect violations of securities law and target entities for examination. Further, we reviewed selected SEC Office of the Inspector General's audit reports on the agency's use of technology.<sup>8</sup> We interviewed management and staff from six SEC divisions, the Office of Information

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<sup>8</sup>These reports included Office of the Inspector General, Securities and Exchange Commission, *The Inspector General's Statement on the SEC's Management and Performance Challenges, October 2022* (Washington, D.C.: Oct. 13, 2022); *Additional Steps Are Needed For the SEC To Implement a Well-Defined Enterprise Architecture*, Report No. 568 (Washington, D.C.: Sept. 29, 2021); *The SEC Can More Strategically and Securely Plan, Manage, and Implement Cloud Computing Services*, Report No. 556 (Washington, D.C.: Nov. 7, 2019); *Final Management Letter: Update on the SEC's Progress Toward Redesigning the Electronic Data Gathering, Analysis, and Retrieval System* (Washington, D.C.: May 13, 2019); and *Although Highly Valued by End Users, DERA Could Improve Its Analytics Support by Formally Measuring Impact, Where Possible*, Report No. 553 (Washington, D.C.: Apr. 19, 2019).

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Technology, and the Office of the Chief Data Officer about SEC's supervisory technology.

We conducted this performance audit from February 2023 to December 2023 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

# Appendix II: Comments from the Securities and Exchange Commission



UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549

November 28, 2023

Michael E. Clements  
Director  
Financial Markets and Community Investment  
U. S. Government Accountability Office  
441 G Street, NW  
Washington, DC 20548

Dear Mr. Clements:

Thank you for your draft report, *Financial Technology: SEC Should Prepare a Workforce Plan, Document Oversight Controls, and Set Goals for Innovation Office* (GAO-24-106635). We appreciate GAO's insights and recommendations related to the SEC's development, recruitment, and retention of employees with the right mix of skills and expertise in emerging technologies.

We are pleased to see the report's findings reflecting favorable views on many aspects of the SEC's human capital programs. The agency is committed to continuing to ensure that we have qualified staff to carry out the SEC's role in safeguarding market integrity and protecting investors.

Three recommendations are included in GAO's draft report. The first is to update the SEC workforce planning strategy to better align with the agency's performance and strategic plans for the years 2022–2026. The other two recommendations focus on improving documentation of policies, procedures, and performance goals for the Strategic Hub for Innovation and Financial Technology. We concur with these recommendations and believe they will help improve the controls and transparency over the agency's activities in these areas.

Thank you for the consideration you and your staff have shown our agency during this engagement. If you have any questions, please do not hesitate to contact me at (202) 551-4306.

Sincerely,

KENNETH  
JOHNSON

Digitally signed by  
KENNETH JOHNSON  
Date: 2023.11.28  
14:59:04 -0500

Kenneth A. Johnson  
Chief Operating Officer

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## Accessible text for Appendix II: Comments from the Securities and Exchange Commission

UNITED STATES SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549

November 28, 2023

Michael E. Clements  
Director  
Financial Markets and Community Investment  
U.S. Government Accountability Office  
441 G Street, NW  
Washington, DC 20548

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**Appendix II: Comments from the Securities  
and Exchange Commission**

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Kenneth A. Johnson  
Chief Operating Officer

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## Appendix III: GAO Contact and Staff Acknowledgments

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### GAO Contact

Michael E. Clements, (202) 512-8678 or [clementsm@gao.gov](mailto:clementsm@gao.gov).

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### Staff Acknowledgments

In addition to the contact named above, Richard Tshara (Assistant Director), Catherine Gelb (Analyst in Charge), Lauren Capitini, Garrett Hillyer, Megan Knox, Jill Lacey, Courtney LaFountain, Rebecca Sero, Jena Sinkfield, and Nina Thomas-Diggs made key contributions to this report.



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